

# Lines and Borders

COMPSCI 345 / SOFTENG 350

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## Learning Outcomes

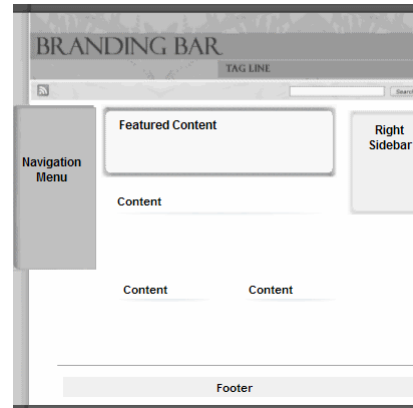
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- ▶ What is wire framing and why do you do it?
- ▶ Why do you use lines and borders?
- ▶ What are some of style options?
- ▶ How are lines and borders used in Data Tables



## High level Layout

- ▶ Wire framing your site (or system) is an important first step in design

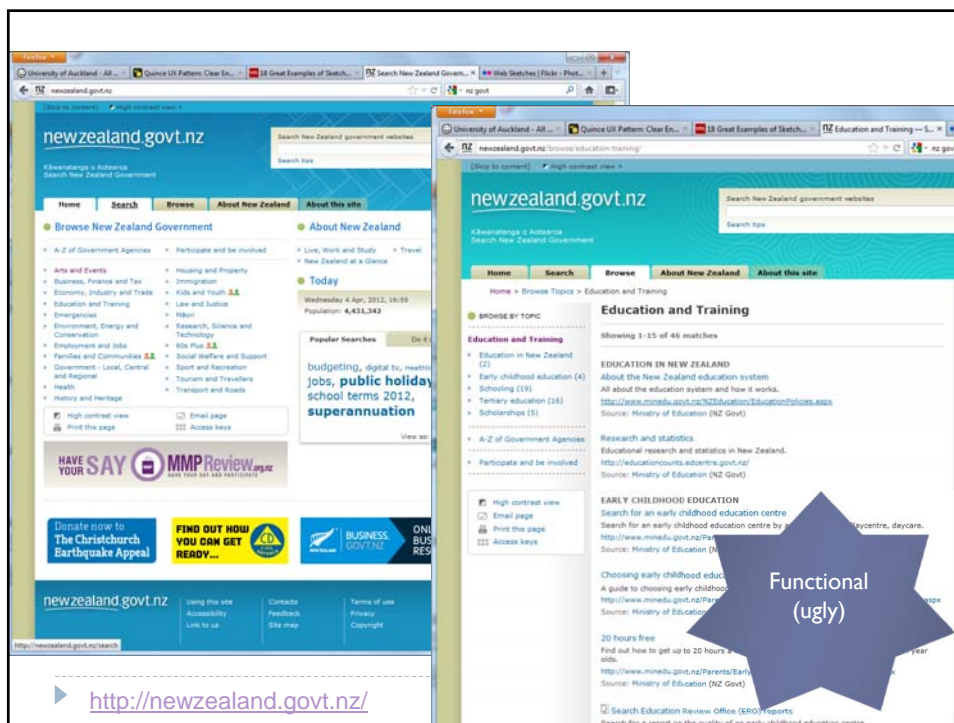


- ▶ [http://www.usability.gov/methods/design\\_site/define.html](http://www.usability.gov/methods/design_site/define.html)



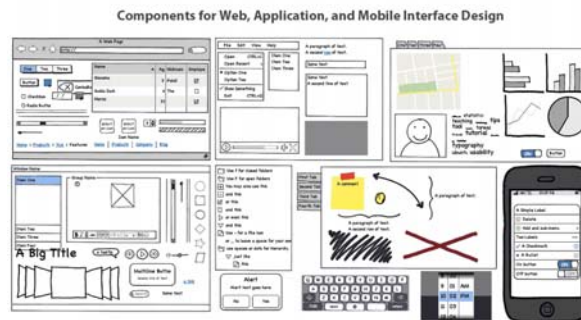
## Analysing existing pages





## Making Wireframes

- ▶ Hand-draw them
  - ▶ (preferable – you can photocopy the main frame)
- ▶ or use Balsamiq
- ▶ There are lots of other tools around.

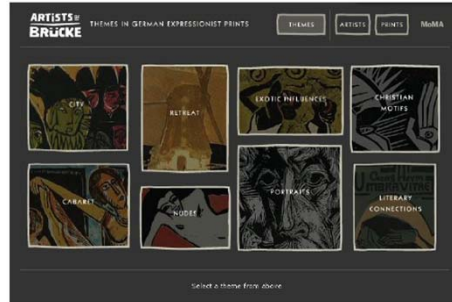


## Lines and Borders

- ▶ Create physical grouping.
- ▶ Borders offer possibilities for creative styling.



## Lines and Borders



- ▶ Borders and other lines, use the same colour, thickness, and curves as one of the fonts.



- ▶ Mochimedia uses the logotype's "fat curves" all over the design. The heavy black border strongly echoes the logo type; so do the icons, the headline, the top menu bar, and the cartoon character itself.

## Lines and Borders

- ▶ Many sites use very thin borders and separator lines that reflect the visual qualities of a body font.



## Lines and Borders

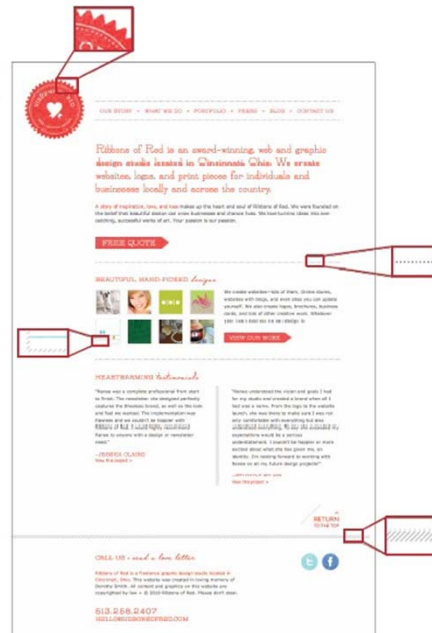
- ▶ The website below shows hairlines used in many places: as a faint grid in the background, as horizontal rules, and as very lightweight borders around the boxes.

The hairlines work with the background texture and excellent typography to create a very rich look.



## Lines and Borders

- ▶ Likewise, hairlines are used in several ways in the design studio site
- ▶ Note their usage in the logo, in the dotted separator lines, and in the diagonal texture used around the thumbnails and at the bottom of the page.



## Corner treatments

- ▶ Instead of using ordinary right angles, you can also use diagonals, curves, or cutouts for some of the interface's box corners.
- ▶ Make these corner treatments **consistent** across the interface!

The repetition of visual motifs helps unify a design. When you devise a single "corner" motif and use it consistently in many places, it gives a distinctive look to the whole design. It's certainly less boring than ordinary right-angled corners.



## Corner treatments



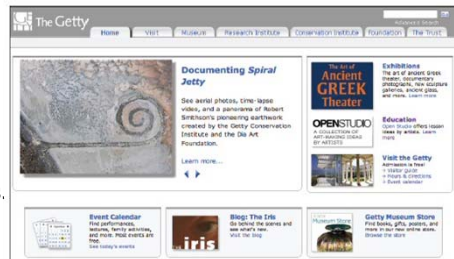
Pattern repeats the curved corners all over the site:

- menu bars,
- the main content box,
- tabs,
- and buttons

The Getty Museum's site uses

- bars across the top of boxes,
- curves on the bottom corners.

(The tabs also use curved corners, which is common.)



## Half time entertainment

- ▶ This one is a bit long... But how could we not have it in a lecture about LINES and borders
- ▶ <http://youtu.be/BKorP55Aqvg>



## Angles

- ▶ A page composed of straight up-and-down lines and right angles generally looks calmer and more still than diagonal lines and non-rectangular shapes.
- ▶ Likewise, a page with many different angles has more apparent motion than a page with a single repeated angle.





## Curves

- ▶ Curves also can add motion and liveliness, but not always.
- ▶ A design made with a lot of circles and circular arcs can be calming and restful.
  - ▶ But a curve swooping through a page sets the whole design in motion, and a few carefully chosen curves in an otherwise rectangular design add sophistication and interest.



## Curves



- ▶ The Starbucks web site above takes advantage of its circular logo by echoing that curve in rectangle corners all over the page in panel borders, icons, and even the "go" buttons. The overall effect is restful and unified.



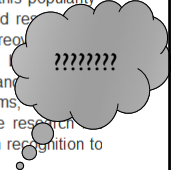
## Doing it wrong

- ▶ Adding lines between connected bits of information disrupts the visual flow
- ▶ Grouping incorrectly is guaranteed to confuse your users!

## Sketching Euler Dia

This [EPSRC](#) funded project [EP/H048480/1] focus sketch recognition techniques for Euler diagrams.

A natural creation method for Euler diagrams is using this project, no intelligent tool support existed for the of diagrams of this type. Euler diagrams are a popular visualization technique; in part, this popularity our selection of them for the proposed research is likely to have significant impact. More expressive notations, graphs or arrows (or both), for instance spider diagrams, Euler/Venn diagrams, diagram, and concept diagrams. The research provide a basis for developing sketch recognition to expressive notations.



The figure below shows a sketched Euler diagram (or a formal Euler diagram (on the right). The sketch touchscreen and automatically converted to the formal conversion process relies on being able to distinguish. In addition, sketched curves which are approximately are rendered as these shapes in the formal diagram.



## Tables

- ▶ Tabular data is everywhere and naturally the columns and rows must be visually separated
- ▶ taking this table as an example what are all the decisions that must be made?

Yesterday's weather extremes				
	Hottest	Coldest	Wettest	Windiest
Rank	Prev	Up/Down	Location	Max Temp
▲ 1	16	+15	Christchurch Airport	25.1°C
▲ 2	9	+7	Timaru Airport	24.7°C
▲ 3	18	+15	Blenheim Airport	24.4°C
▲ 4	45	+41	Ashburton Airport	24.2°C
▲ 5	35	+30	Lyttelton	23.8°C
▼ 28	20	-8	Auckland Airport	20.8°C

Rank of the locations with the hottest air temperature recorded yesterday, in order from hottest to cooler. [More](#)



## Table Data

- ▶ All cells in a column should be of the same magnitude
- ▶ Alignment is critical too

▶ This

Temperature	Time
21	12
3	1:30
14.46	14:17
-8	3pm
	10am

▶ Or this

Temperature	Time
21	12:00
3	1:30
14	14:17
-8	15:00
6	9:30
-1	17:00



## Heading and Totals

- ▶ Should be separate
- ▶ But not too dominant

Temp	Time
21	12:00
3	1:30
14	14:17
-8	15:00
6	9:30
-1	17:00

Temp	Time
21	12:00
3	1:30
14	14:17
-8	15:00
6	9:30
-1	17:00

Temp	Time
21	12:00
3	1:30
14	14:17
-8	15:00
6	9:30
-1	17:00

Temp	Time
21	12:00
3	1:30
14	14:17
-8	15:00
6	9:30
-1	17:00



## Columns and Rows

- ▶ What makes the data easier to see?
- ▶ Is extra encoding sensible?

Temp	Time
21	12:00
3	1:30
14	14:17
-8	15:00
6	9:30
-1	17:00

Temp	Time	Temp	Time	Temp	Time
21	12:00	21	12:00	21	12:00
3	1:30	3	1:30	3	1:30
14	14:17	14	14:17	14	14:17
-8	15:00	-8	15:00	-8	15:00
6	9:30	6	9:30	6	9:30
-1	17:00	-1	17:00	-1	17:00

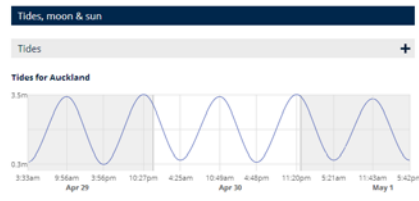


## And then there is graphs!

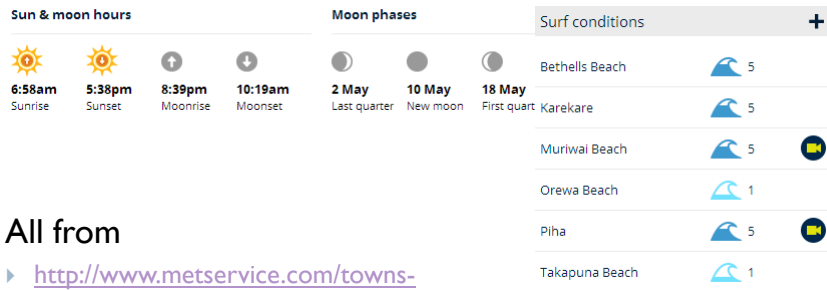
### Past weather



### Weather data



## And other information visualization



### ▶ All from

▶ <http://www.metservice.com/towns-cities/auckland/auckland-central>

▶ Which is pretty cool!



## More about this

- ▶ Stephen Few, Show me the numbers: designing tables and graphs to enlighten 2<sup>nd</sup> Edition, Analytics Press, 2012
  - ▶ Chapter 8 is available on the **Piazza** course webpage.



## CSS3 Borders

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- ▶ CSS3 has extended the border options
  - ▶ [http://www.w3schools.com/cssref/playit.asp?filename=playcss\\_border-style&preval=none](http://www.w3schools.com/cssref/playit.asp?filename=playcss_border-style&preval=none)
- ▶ Other elements have borders too
  - ▶ Tables
  - ▶ Boxes
  - ▶ Columns
    - ▶ [http://www.w3schools.com/cssref/playit.asp?filename=playcss\\_column-rule-style](http://www.w3schools.com/cssref/playit.asp?filename=playcss_column-rule-style)



## Summary

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- ▶ What is wire framing and why do you do it?
  - ▶ Overall design of site/system
  - ▶ Consistency
- ▶ Why do you use lines and borders?
  - ▶ Lines and borders are a powerful aesthetic element
  - ▶ They can group and segment content
  - ▶ They can calm or energize a visualization
- ▶ What are some of style choices?
  - ▶ The style of the lines and corners should be congruent with the rest of the design
    - ▶ All sharp and 'hard'
    - ▶ All round and 'soft'
    - ▶ Can use lines, background contrast or whitespace
- ▶ Apply this in your assignment



## References

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- ▶ <http://www.graphics.com/modules.php?name=Sections&op=viewarticle&artid=923>
- ▶ Data Visualization for Human Perception, Stephen Few [http://www.interaction-design.org/encyclopedia/data\\_visualization\\_for\\_human\\_perception.html](http://www.interaction-design.org/encyclopedia/data_visualization_for_human_perception.html)

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▶ <sup>29</sup> Prepared by Safurah Abdul Jalil